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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,727	05/23/2000	Chad A. Cobbley	3639.1US (97-1383.1)	3108

7590 12/07/2004

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EXAMINER

TRINH, MINH N

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/576,727	<b>Applicant(s)</b> COBBLEY ET AL.	
	<b>Examiner</b> Minh Trinh	<b>Art Unit</b> 3729	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-20 and 22-34 is/are pending in the application.
- 4a) Of the above claim(s) 9-17 and 26-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,18-20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/05/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The amendment filed on 9/20/04 has been fully considered and made of record.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-3, 5-8, 18-20 and 22-25 are being rejected under 35 U.S.C. 101 because the claimed invention due to the fact that the scope of the claims is directed to both statutory classification i.e., "an assembly" and "an apparatus" for assembly a substrate (refer amended claims 1-3, 5-8, 18-20 and 22-25, preamble). It appears that the claims are directed to an assembly system instead of an assembly or an apparatus as recited in the preamble of the amended claims.

4. Claim 1-3, 5-8, 18-20 and 22-25 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the scope of the claimed invention is unidentified and is not seem to have support for the reasons set forth above, one skilled in the art clearly would not know how to use or make the claimed invention. It is noted that the body of the claim clearly directed to an assembly system for assembling PCB, and the amendment to the preamble does not clearly define whether the invention is a product or an apparatus therefore, the rejections under 112, first paragraph is maintained for reasons of the record.

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5. Claims 1-3, 5-8, 18-20 and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following are examples:

The preamble of claims 1-3, 5-8, 18-20 and 22-25 (as amended) is unclear and confusing. It is uncertain of how an assembly or a product that having an apparatus. At best, the claims appears to be directed to an assembly system instead of an assembly and or an apparatus as define in the preamble because the body of the claims clearly directed to a number of devices or apparatuses that form the assembly system for assembling PCB, therefore it is suggested the preamble of the claims should have been revised to read on: -- An assembly system comprising--", etc., or the like as so to clarify the claimed subject matter.

It is unclear whether "a substrate "(claim 1, line 15) is the same as "a substrate" (in the preamble, line 2).

6. Claims 1-3, 6-8, 18-20 and 23-25, as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakemi et al (US 5,655,704) in view of Yeh et al (US 5,607,099). This rejection is set forth in prior Office Action, paragraph 7, dated 6/17/04.

7. Claims 5 and 22 as best understood are rejected under 35 U.S.C. 103(a) as obvious over Sakemi et al in view of Yeh et al. This rejection is set forth in prior Office Action, paragraph 7, dated 6/17/04.

### ***Response to Arguments***

8. Applicant's arguments with respect to rejected claims have been considered but are moot in view of the new ground(s) of rejection.

a) The amendment to the claims has not overcome the 101, and/or 112 first and second paragraph rejection (see discussion in paragraph 3-5).

b) Regarding the art rejections, Applicants argue that the combination prior art do not teach every limitations as recited in the rejected claims for example, Yeh et al fail to teach the limitation associated with the solder balls being dispensed into the cavities of the device, and the substrate having an upper surface, and bearing conductive sites (see "Remarks", page 10, paragraphs 1-3). The examiner disagrees, for following reasons. First, Sakemi et al a stencil plate 4 with upper and lower surfaces and a first pattern of plurality of through holes 4a, said stencil plate configured to place a plurality of conductive spheres 3 in said first pattern on an approximate surface of the substrate 2(refer to Figs. 3-4 of Sakemi et al). Second, Yeh et al teach the substrate 10 having an upper surface (top surface) and bearing conductive sites comprising one of recesses sites 12 including level sites with respect to said upper surface (see illustration of Figs. 2-3, and the discussion at col. 4, lines 30-49, and at col. 5, lines 4-10). Therefore, the features as discussed above are fully met by the applied prior art references. Further, applicants are aware that the claims languages are interpreted in light of the specification, limitations from the specification are not to be read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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c) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for the combination can be found either in the references since both the references directed to the assembly system for mounting or transferring solder ball to an associated work piece or substrate as recited in the present invention claims (i.e., see Yeh et al col. 4, lines 61-64).

d) For above reasons, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or rejections.

e) This application also contains nonelected claims that are drawn to an invention nonelected. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

**Conclusion**

9. Please noted that any amendment made to the disclosure and the claims.

Applicant requires to point out the support provide numeral references to the claimed limitations as well as support in the disclosure (i.e., page and line numbers and reference number associated with from the drawings) for better clarity (See 37CFR 1.111 and section 2163.06 of the MPEP).

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (703) 305-2887. The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7307 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

mt  
December 4, 2004

  
MINH TRINH  
PRIMARY EXAMINER